What is claimed is:

1. An apparatus for decoding data of unknown frame length, comprising:

a preliminary decoding part for decoding input data into preliminarily decoded data according to each of the possible frame lengths; and

a decoded data outputting part for selectively outputting data that correspond to a frame length detected from the input data, from among the preliminarily decoded data which are decoded by the preliminary decoding part according to each of the possible frame lengths.

2. The decoding apparatus of claim 1, wherein the preliminary decoding part comprises:

a branch metrics calculating part for calculating a set of branch metrics by comparing the input data with a standard level;

an ACS (Adding, Calculating & Selecting) part for obtaining path metrics of a current state by adding path metrics of a previous state to the set of branch metrics, and from the path metrics, selectively outputting an optimum path of the current state as path selection data;

a path metrics storing part for storing the path metrics of the current state calculated by the ACS part;

a tracebacked data storing part for storing the path selection data output from the ACS part, and tracebacking the path selection data , and sequentially outputting the tracebacked data as preliminarily decoded data; and

a traceback controlling part for controlling the tracebacking of the tracebacked data storing part according to each of the possible frame lengths.

3. The decoding apparatus of claim 2, wherein the decoded data outputting part comprises:

a frame length determining part for detecting the frame length based on the input data;

an output storing part for storing the preliminarily decoded data output from the tracebacked data storing part; and

an output controlling part for controlling the output storing part so as to output decoded data corresponding to the detected frame length.

4. A method for decoding data of unknown frame length, comprising the steps of:

(a) decoding the input data into preliminarily decoded data according to each of the possible frame lengths; and

(b) selectively outputting data corresponding to the frame length detected based on the input data, from among the preliminarily decoded data which are decoded according to each of the possible frame lengths.

5. The decoding method of claim 4, wherein the preliminarily decoding step (a) comprises the sub-steps of:

(a1) calculating a set of branch metrics by comparing the input data with a standard level;

(a2) obtaining path metrics of a current state by adding path metrics of a previous state to the set of branch metrics, and from the path metrics, selectively outputting an optimum path of the current state as path selection data;

(a3) storing the path selection data; and

(a4) tracebacking the path selection data according to each of the possible

frame lengths, and sequentially outputting the tracebacked data as preliminarily decoded data.

6. The decoding method of claim 5, wherein the tracebacking step (a4) comprises the sub-steps of:

(a41) initializing a data parameter for counting the path selection data, a frame length indicating parameter for indicating the possible frame lengths, and frame length parameter for indicating the possible frame lengths;

(a42) increasing the data parameter;

(a43) storing a path selection data corresponding to the data parameter;

(a44) comparing the data parameter with the frame length parameter;

(a45) if the data parameter is different from the frame length parameter, comparing the data parameter with a decoding depth, and, if the data parameter is smaller than the decoding depth, performing the data parameter increasing sub-step (a42);

(a46) if the data parameter equals to, or is greater than the decoding depth, firstly tracebacking the path selection data, and sequentially outputting a lastly tracebacked bit of the data as first preliminarily decoded data, and performing the data parameter increasing sub-step (a42);

(a47) if the data parameter equals the frame length parameter, secondly tracebacking the path selection data, and sequentially outputting all the tracebacked bits of data as second preliminarily decoded data;

(a48) after completion of the sub-step (a47), comparing the frame length parameter with a longest possible frame length, and, if the frame length parameter equals the longest possible frame length, ending the tracebacking step (a4); and

(a49) if the frame length parameter is different from the longest possible frame length, increasing the frame length indicating parameter, and performing the data parameter increasing sub-step (a42).

7. The decoding method of claim 6, wherein the decoded data outputting step (b) comprises the sub-steps of:

(b1) detecting a frame length from the input data; and

(b2) among the first and second preliminarily decoded data output in the sub-steps (a46 and a47), selectively outputting data corresponding to the detected frame length, as final decoded data.

8. The decoding method of claim 7, wherein the frame length determining sub-step (b1) detects the frame length by using one of a Cyclic Redundancy Check, a zero path metric, and a minimum path metric.

9. The decoding method of claim 7, wherein the decoded data outputting step (b2) comprises the sub-steps of:

(b21) initializing a preliminarily decoded data indicating parameter;

(b22) increasing the preliminarily decoded data indicating parameter;

(b23) if the preliminarily decoded data indicating parameter is smaller than the detected frame length, selectively outputting the data, among the first preliminarily decoded data, that are indicated by the preliminarily decoded data indicating parameter, and performing the preliminarily decoded data indicating parameter increasing sub-step (b22); and

(b24) if the preliminarily decoded data indicating parameter equals to the detected frame length, selectively outputting the data, among the first and the second preliminarily decoded data, that are indicated by the frame length indicating parameter.